

WHAT IS CLAIMED IS:

1. An image scanning apparatus having a processor, comprising:
  - a paper tray for placing a document having a first side and a second side;
  - a cross-shaped document passage having an overlap portion;
  - a drive module for driving said document to pass through said cross-shaped document passage in response to a trigger; and
  - a scan module for scanning said document passing through said cross-shaped document passage.
2. The image scanning apparatus according to claim 1, wherein said cross-shaped document passage is a  $\alpha$ -shaped document passage.
3. The image scanning apparatus according to claim 1, wherein said drive module comprises:
  - a motor;
  - a roller assembly, driven by said motor, for conveying said document to move along said cross-shaped document passage;
  - a valve set for controlling said document to undergo scans of said first side and said second side consecutively; and
  - a sensor for informing said processor to control said valve set in response to a position of said document.
4. The image scanning apparatus according to claim 1, where said scan module comprises:
  - a light source for providing a light to said document passing through said scan module to generate a first signal;

an optical scanning device, including a lens and at least a reflector, for reflecting said first signal and focusing said first signal reflected to output a second signal; and

a charge-coupled device (CCD) for receiving said second signal to generate an electric signal.

5. The image scanning apparatus according to claim 3, where said roller assembly comprises:

at least an active roller for producing a friction to convey said document;

at least a passive roller for cooperating with said active roller to convey said document;

an adjustment plate for aligning a leading edge of said document;

a pick-up arm for fixing said active roller and said passive roller; and

a cam set for coordinating a document feeding operation between said pick-up arm, said active roller and said passive roller.

6. The image apparatus of claim 1, wherein said document is selected to scan either in a simplex scanning mode or in a duplex scanning mode.

7. The image apparatus of claim 4 further comprising:

a platform corresponding to said overlap portion of said cross-shaped document passage, said document is illuminated by said light to generate said first signal when said document passes through said platform.

8. The image apparatus of claim 7 further comprising:

a pressing member corresponding to said overlap portion of said cross-shaped document passage, said document is pressed evenly by said pressing member when said

document passes through said platform.

9. The image apparatus of claim 8, wherein said pressing member further comprises a spring.

10. The image apparatus of claim 8, wherein said pressing member further comprises a flat plate.

2014-03-04 10:00:00